Math 212
Quiz 14

F 23 Sep 2016

Your name: _____

Exercise

(5 pt) Consider the unit sphere S^2 in $\mathbf{R}^3$ centered at the origin. Find an equation for the tangent plane to S^2 at the point $(\frac{1}{2}, \frac{1}{2}, -\frac{1}{\sqrt{2}})$. *Hint:* Recall that an equation for the unit sphere is

$$x^2 + y^2 + z^2 = 1.$$

Solve for z as a function of x, y, minding signs (!), then take partial derivatives. As an alternative to all this, think geometrically.